Before the
Federal Communications Commission
Washington, D.C. 20554

Amendment of the Amateur Service Rules to Facilitate Use of Spread Spectrum Communications Technologies	)))	RM -11325

To the Commission:

Comments of Nickolaus E. Leggett, N3NL
Amateur Radio Extra Class Operator

The following are formal comments from Nickolaus E. Leggett. I am a certified electronics technician and an Extra Class amateur radio operator (call sign N3NL). I have a Master of Arts degree in Political Science from the Johns Hopkins University. I am also an inventor holding three U.S. Patents. My latest patent is a wireless bus for digital devices and computers (U.S. Patent # 6,771,935).

Spread Spectrum Transmission

I am strongly in favor of dropping the requirement that spread spectrum transmissions over 1 Watt in power must be equipped with automatic transmitter power control (APC) as requested by the ARRL. Spread spectrum is a very appealing communications mode that uses radio emissions that are spread over a fairly wide spectrum band at various points in time. This spreading of the signal is accomplished in many designs using frequency hopping where the transmitter and receiver hop to frequencies within the spectrum band in a synchronous manner.

Current Opportunities for Spread Spectrum

Spread spectrum offers numerous opportunities for amateur radio experimentation. Spread spectrum is a very natural match to software defined radio (SDR) technology. In a SDR implementation of spread spectrum, operation of the radio's software program would establish the spread transmission of the transmitter's emissions. The radio would consist largely of integrated circuits and computer memory implementing the amateur's spread spectrum software program.

As an inventor myself, I can see the strong appeal of spread spectrum as an opportunity for amateur radio operators experimenting with new technology and inventing new spread spectrum systems.

The Problem with Automatic Transmitter Power Control

Under the current rules, amateur radio operators are deterred from building and experimenting with spread spectrum technology. This is because the significant complication of automatic transmitter power control is added to the already challenging task of designing and building a working spread spectrum amateur radio station.

The Commission's rules should be modified as suggested by the ARRL so that amateur radio operators can work with spread spectrum technology without having to deal with automatic power control. Later as they develop their skills with spread spectrum, they can indeed add automatic power control and other features to create an "intelligent" adaptive digital radio.

However, this sophisticated requirement should not be imposed on all higher power spread spectrum amateur radio stations.

Alternatively, if the Commission wishes to retain some automatic power control requirements, they should be limited to spread spectrum transmissions over 50 Watts in power. This would allow hams to design and build "basic" spread spectrum stations without automatic power control.

Support Our Inventors

The Commission should act to support amateur radio inventors and experimenters. A major step in this direction is to carry out the change requested by the ARRL in this docket.

Respectfully submitted,

Nickolaus E. Leggett
N3NL Amateur Radio Extra Class Operator
Inventor and Patentee
1432 Northgate Square, # 2A
Reston, VA 20190-3748
(703) 709-0752

April 10, 2006